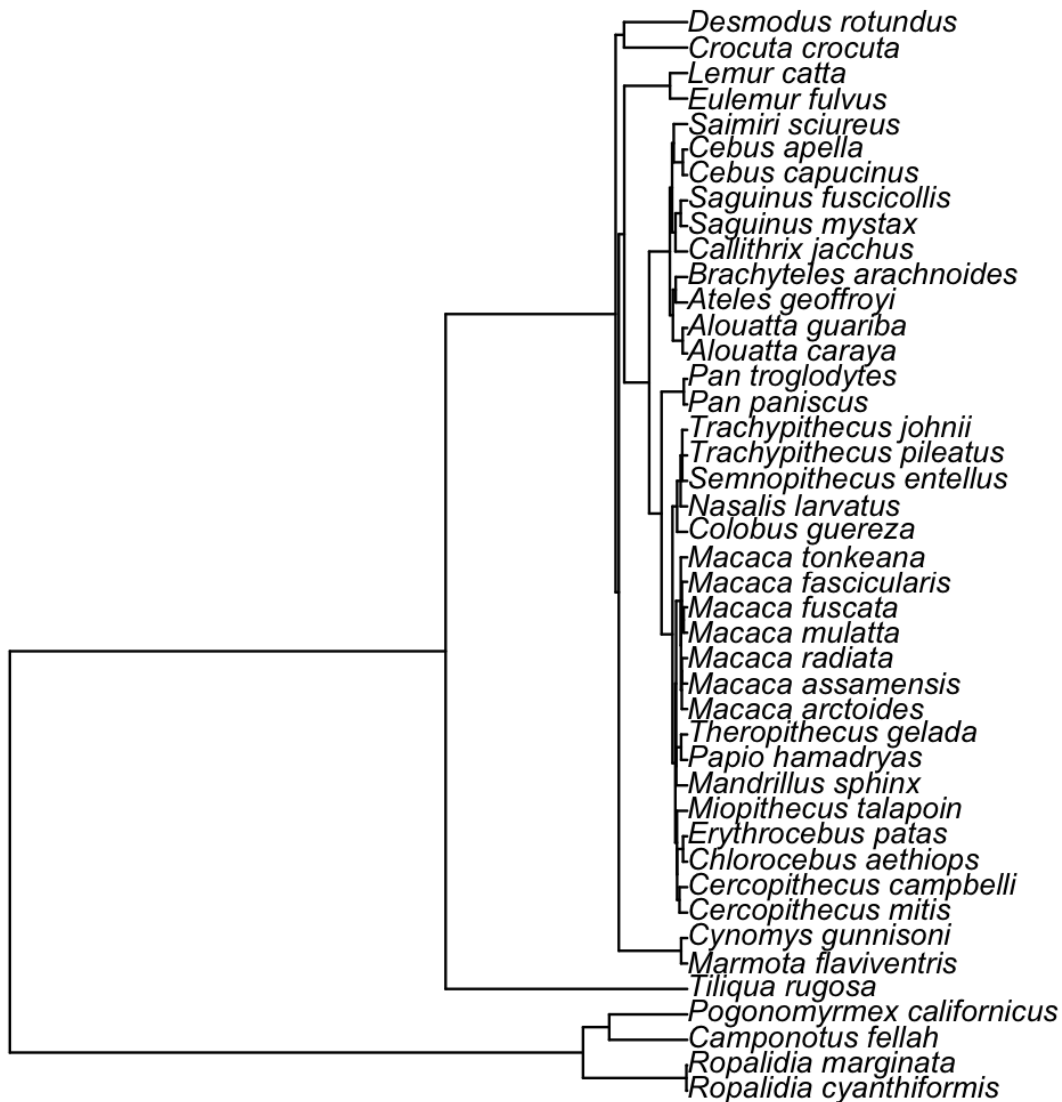


**Nunn et al, Electronic Supplementary File #2  
Phylogeny Used for Comparative Tests**

As described in the main text, we compiled a phylogeny for the mammalian species in the final dataset by pruning the published, revised mammalian supertree from Bininda-Emonds et al. [1], and by manually grafting additional branches as needed, using node estimates from TimeTree for splits among vertebrates, between vertebrates and arthropods, and between wasps and bees [2]. Additional branches were added for the split between the ant genera *Pogonomyrmex* and *Camponotus* (at 104.7 mya) from [3], and for the recent split between the two wasp species of *Ropalidia*, arbitrarily estimated at 1 million years ago, based on their status as congeneric species (no genetic estimates were available for these species).



Tree file in Nexus format:

#NEXUS

BEGIN TREES;

TRANSLATE

- 1 Alouatta\_caraya,
- 2 Alouatta\_guariba,
- 3 Ateles\_geoffroyi,
- 4 Brachyteles\_arachnoides,
- 5 Callithrix\_jacchus,
- 6 Cebus\_apella,
- 7 Cebus\_capucinus,
- 8 Cercopithecus\_campbelli,
- 9 Cercopithecus\_mitis,
- 10 Chlorocebus\_aethiops,
- 11 Colobus\_guereza,
- 12 Crocuta\_crocuta,
- 13 Cynomys\_gunnisoni,
- 14 Desmodus\_rotundus,
- 15 Erythrocebus\_patas,
- 16 Eulemur\_fulvus,
- 17 Lemur\_catta,
- 18 Macaca\_arctoides,
- 19 Macaca\_assamensis,
- 20 Macaca\_fascicularis,
- 21 Macaca\_fuscata,
- 22 Macaca\_mulatta,
- 23 Macaca\_radiata,
- 24 Macaca\_tonkeana,
- 25 Mandrillus\_sphinx,
- 26 Marmota\_flaviventris,
- 27 Miopithecus\_talapoin,
- 28 Nasalis\_larvatus,
- 29 Pan\_paniscus,
- 30 Pan\_troglodytes,
- 31 Papio\_hamadryas,
- 32 Saguinus\_fuscicollis,
- 33 Saguinus\_mystax,
- 34 Saimiri\_sciureus,
- 35 Semnopithecus\_entellus,
- 36 Theropithecus\_gelada,
- 37 Trachypithecus\_johnii,
- 38 Trachypithecus\_pileatus,
- 39 Tiliqua\_rugosa,
- 40 Camponotus\_fellah,
- 41 Pogonomyrmex\_californicus,
- 42 Ropalidia\_cyanthiformis,
- 43 Ropalidia\_marginata;

TREE mammalST\_bestDates =

```
((42:1.0000000000000001,43:1.0):138.900000000000001,(40:104.700000000000001,41:104.7):35.2):770.100000000000001
,(39:324.500000000000001,((26:8.100000000000001,13:8.1)473:83.699999999999999,((((((9:10.3,8:10.3)761:3.2,(10:5.5,
15:5.5)769:8.0)759:0.2,27:13.7)758:2.2,((25:14.6,(31:8.1,36:8.1)779:6.5)774:0.2,(((18:7.2,(19:7.1,23:7.1)783:0.1)782:1.1,((2
2:4.7,21:4.7)787:2.3,20:7.0)786:1.3)781:0.2,24:8.5)'780_Macaca':6.3)773:1.1)'756_Cercopithecinae':3.8,(11:13.5,(28:8.8,(35
:6.6,38:6.6,37:6.6)804:2.2)801:4.7)'793_Colobinae':6.2)'755_Cercopithecidae':14.7,(29:4.5,30:4.5)'817_Pan':29.9)754:16.6,((
```

(1:6.0,2:6.0)'828\_Alouattinae\_Alouatta':13.1,(3:15.399999999999999,4:15.4)'831\_Atelineae':3.7)827:4.1,((5:15.7,(33:8.6,32:8.6000000000000001)'870\_Saguinus':7.1)'856\_Callitrichidae':4.5,((7:5.8000000000000001,6:5.8)'881\_Cebus':12.2,34:18.0)'880\_Cebidae2\*\_Cebinae':2.2)855:3.0)825:27.8)753:33.5,(16:23.0,17:23.0)'901\_Lemuridae':61.5)'751\_Primates':7.3)'8\_Euarchon toglires':4.3,(12:84.800000000000001,14:84.8)929:11.3):228.4):585.5);  
END;

### References Cited

- [1] Bininda-Emonds, O.R.P., Cardillo, M., Jones, K.E., MacPhee, R.D.E., Beck, R.M.D., Grenyer, R., Price, S.A., Vos, R.A., Gittleman, J.L. & Purvis, A. 2007 The delayed rise of present-day mammals. *Nature* **446**, 507-512.
- [2] Hedges, S.B., Dudley, J. & Kumar, S. 2006 TimeTree: a public knowledge-base of divergence times among organisms. *Bioinformatics* **22**, 2971-2972.
- [3] Brady, S.G., Schultz, T.R., Fisher, B.L. & Ward, P.S. 2006 Evaluating alternative hypotheses for the early evolution and diversification of ants. *Proceedings of the National Academy of Sciences* **103**, 18172-18177.